

PS-P7X

US Model
AEP Model
UK Model



STEREO TURNTABLE SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements:	120 V ac, 60 Hz (US model) 110, 120, 220, or 240 V ac ~ adjustable, 50/60 Hz (AEP, UK model)
Power Consumption:	12 W
Dimensions:	Approx. 430(w) x 110(h) x 350(d) mm 17(w) x 4 ³ / ₈ (h) x 13 ⁷ / ₈ (d) inches including projecting parts and controls
Weight:	Approx. 10 kg, 22 lb 1 oz (net) Approx. 11.3 kg, 24 lb 15 oz (in shipping carton)

TURNTABLE


Platter:	31 cm, 12 ¹ / ₄ inches, aluminum-alloy diecast
Motor:	Linear BSL (brushless and slotless) motor
Drive System:	Direct drive, crystal-lock control system
Speed:	33 ¹ / ₃ rpm, 45 rpm
Starting Characteristics:	Comes to nominal speed within a ¹ / ₅ revolution (33 ¹ / ₃ rpm)

Wow and Flutter:	+0.04 % (DIN) 0.025 % (WRMS)
Signal-to-noise Ratio:	75 dB (DIN-B)
Load Characteristics:	0 % at 150 g tracking force
Automatic System:	Return, reject

TONEARM

Type:	Statically balanced, universal
Pivot-to-stylus Length:	216.5 mm, 8 ¹ / ₂ inches
Overall Arm Length:	300 mm, 11 ⁷ / ₈ inches
Overhang:	16.5 mm, ²¹ / ₃₂ inches
Tracking Error:	+3°, -1°
Tracking-force Adjustment Range:	0 - 3 g
Headshell Weight:	11 g
Cartridge Weight Range: (including headshell weight)	12 - 18.5 g 18 - 24.5 g (with extra weight)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

- Continued on page 2 -

SONY®

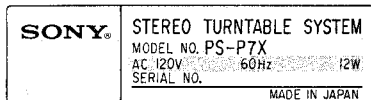
SERVICE MANUAL

CARTRIDGE XL-15 (AEP, UK model)

Type: Moving magnet type
Frequency Response: 10 Hz — 30 kHz
Channel Separation: 25 dB at 1 kHz
Output Voltage: 4 mV at 1 kHz, 5 cm/s
Load Impedance: 50 k Ω
Tracking Force: 1.2 — 2.5 g (1.7 g recommended)
Stylus: Sony ND-15G
Weight: 5.2 g

MODEL IDENTIFICATION

— Specification Label —

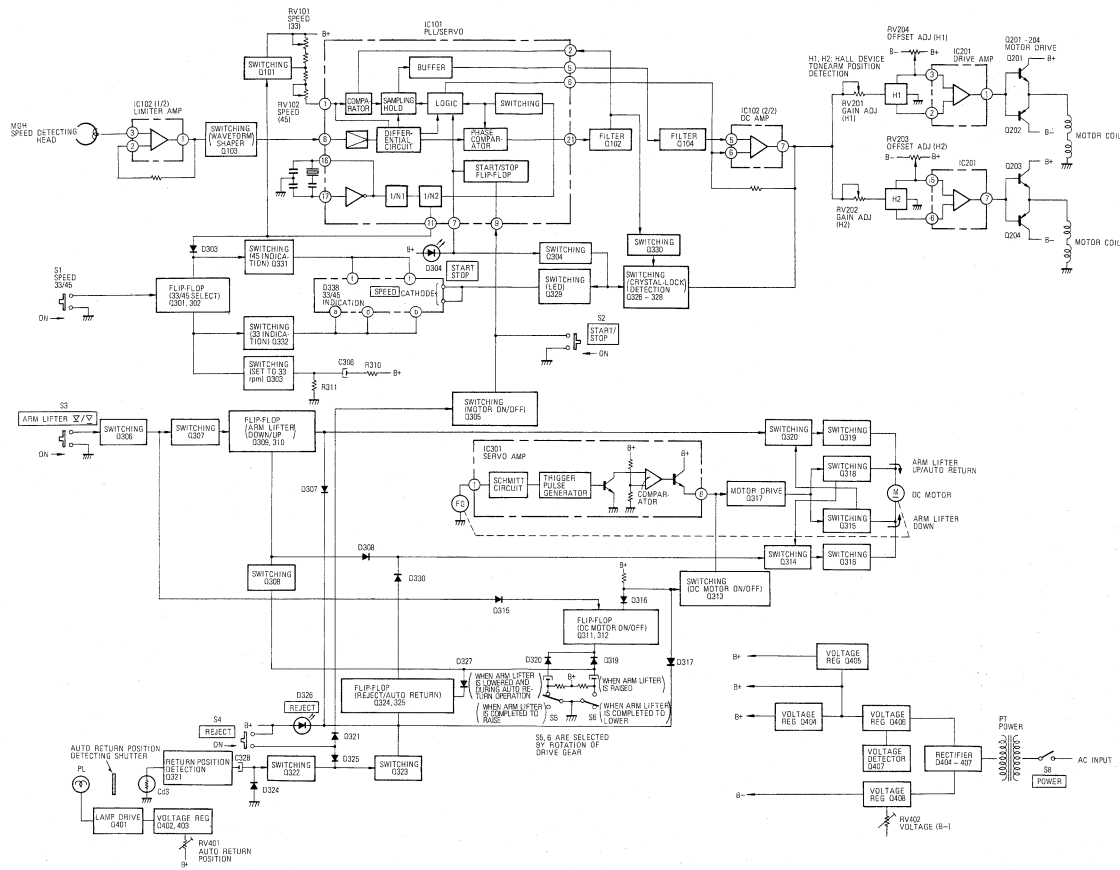


AC 120 V 60 Hz 12 W. US model

AC 110, 120, 220, 240 V ~ 50/60 Hz 12 W. AEP, UK model

SECTION 1 OUTLINE

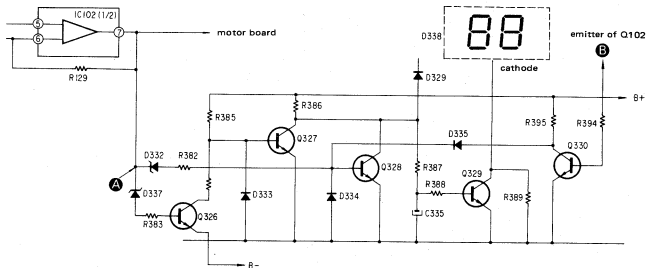
1.1. BLOCK DIAGRAM



1-2. CIRCUIT DESCRIPTION

CRYSTAL-LOCK DETECTION CIRCUIT

When the turntable has reached its designated speed this circuit indicates that the crystal-lock circuit is operating by increasing the brightness of the LED which indicates speed.



Voltage at point **A**

STOP mode: 0 V

At the moment the unit starts playing: 10 V

When the unit is playing stably: -1 V to 2 V

At the moment the unit stops: -10 V

At the moment turntable speed is changed from 33 rpm to 45 rpm: 10 V

At the moment turntable speed is changed
from 45 rpm to 33 rpm: -10 V

Voltage at point ③

STOP mode: 0 V

When STOP switch is depressed: 0 V

At the moment turntable speed is changed from 45 rpm to 33 rpm: 0 V

At other times: more than 1 V

OPERATION

When the voltage at point **A** exceeds 8 V, D332 and Q328 turn ON. This turns Q329 OFF and the cathode of D338, an LED, is grounded through R389 and D338 grows dim. When the voltage at point **A** falls to less than -8 V, D337 and Q326 turn OFF, and Q327 turns ON. This turns Q329 OFF and the cathode of D338 is grounded through R389 and D338 grows dim. In short, when the voltage at point **A** is anywhere from -8 V to 8 V, Q329 turns ON, causing D338 to brighten.

However, when the voltage at point **A** is zero, the voltage is detected at point **B** so that D338 is not brightly lit. When the voltage at point **B** is zero, Q330 turns OFF and Q328 turns ON. This turns Q329 OFF and D338 grows dim.

AUTOMATIC RETURN OPERATION

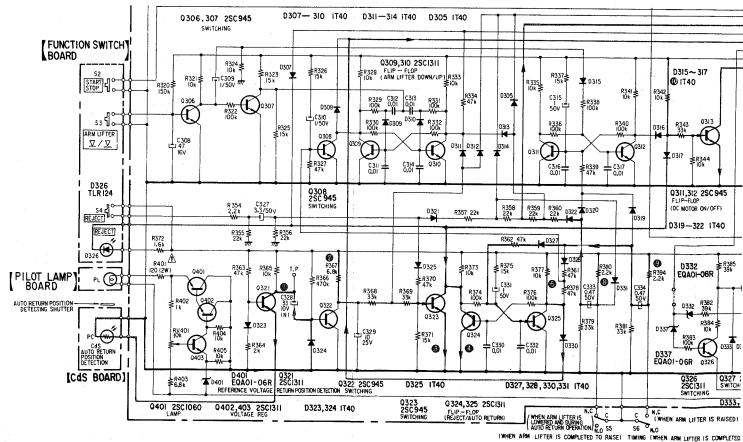
When the tonearm enters the lead-out groove, the auto return position detecting shutter opens. The resistance value (CdS) of Q321 emitter decreases and C328 is discharged (See current ①). This turns Q322 OFF and the trigger pulse of the current ② turns Q323 ON. (Also when REJECT switch (S4) is depressed, Q323 turns ON.)

On the other hand, the current passing through R375 and C331 holds Q324 OFF and Q325 ON as flip-flop, when POWER switch (S8) turns ON. But

when Q323 turns ON for a moment, the flip-flop is reversed. That is to say, Q324 is turned ON and Q325 OFF. (See currents ③ and ④). The REJECT indicating LED is lit by current ④.

Another flip-flop, Q311 and Q312, is held ON and OFF by the current passing through R337 and C315 when POWER switch (S8) is turned ON. As a result, current ⑩ turns Q313 ON and the output of IC 301 (terminal ⑥) is grounded. However, when Q324 turns ON Q313 is turned OFF so that the

output of Q316
Q318 and
flows are
gear turn
soon as
switch (8) turn
flop is re
drive ge



AUTOMATIC RETURN OPERATION

When the tonearm enters the lead-out groove, the auto return position detecting shutter opens. The resistance value (C4d5) of Q321 emitter decreases and C328 is discharged (See current ①). This turns Q322 OFF and the trigger pulse of the current ② turns Q323 ON. (Also when REJECT switch (S4) is depressed, Q323 turns ON.)

On the other hand, the current passing through R375 and C331 holds Q324 OFF and Q325 ON as flip-flop, when POWER switch (S8) turns ON. But

when Q323 turns ON for a moment, the flip-flop is reversed. That is to say, Q324 is turned ON and Q325 OFF. (See currents ③ and ④). The REJECT indicating LED is lit by current ④.

Another flip-flop, Q311 and Q312, is held ON and OFF by the current passing through R337 and C315 when POWER switch (S8) is turned ON. As a result, current ⑤ turns Q313 ON and the output of IC 301 (terminal ⑥) is grounded. However, when Q324 turns ON Q313 is turned OFF so that the

output of IC 301 (current ⑥) is applied to the base of Q317. When Q325 turns OFF, Q314, Q316 and Q318 are turned ON by current ⑥. Current ⑦ flows and the DC motor starts rotating. The drive gear turns clockwise so that the arm lifter raises. As soon as the arm lifter is completely raised, timing switch (S5) switches from N.C. to N.O. Current ⑧ turns Q305 ON so that the START/STOP flip-flop is reversed and the turntable stops rotating. The drive gear is kept rotating by current ⑦ and the

tonearm starts the return operation. When the tonearm reaches its rest, timing switch (S6) switches from N.C. to N.O. Current ⑨ turns Q325 ON and Q324 OFF interrupting current ④ turning off the REJECT indicating LED.

Q313 turns ON by current ⑥ and the output of IC301 (terminal ⑥) is grounded. Since currents ⑥ and ⑦ do not flow, DC motor stops rotating.

of Q102

B+

Q332

the

Q389

④

OFF.

the

and

point

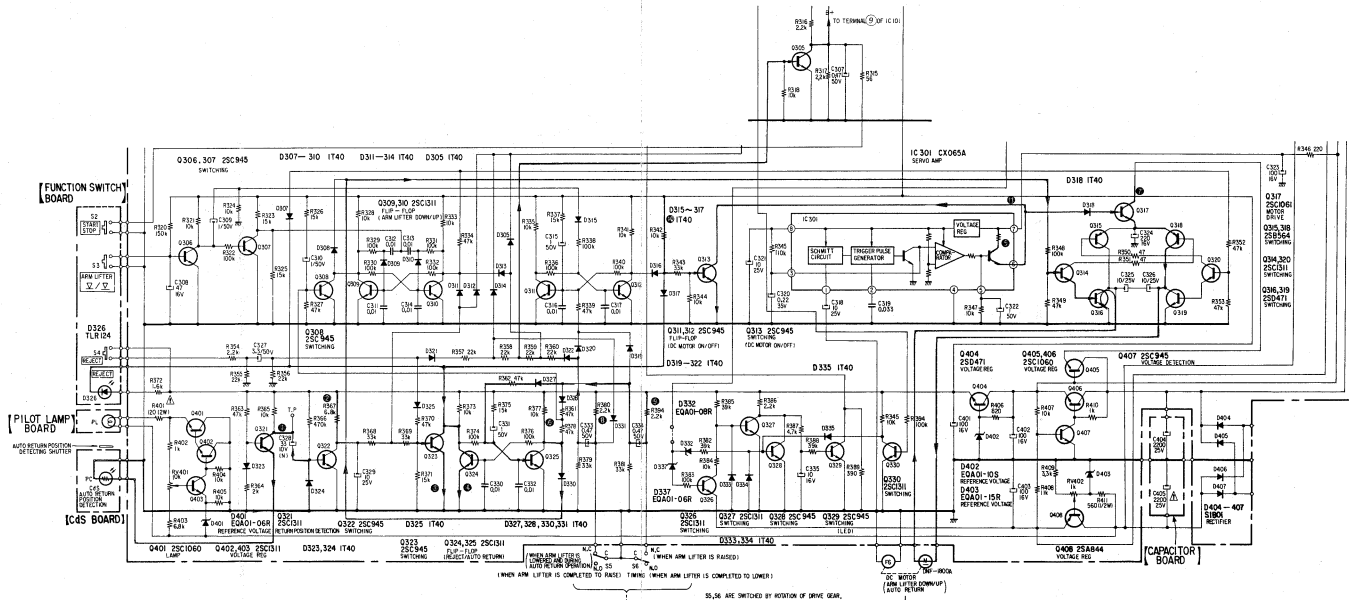
ON,

zero,

38 is

③ is

This



ARM LIFTER UP/DOWN OPERATION

The current passing through R337 and C315 holds Q311 ON and Q312 OFF as a flip-flop when POWER switch (S8) turns ON. Therefore, Q313 is turned ON by current ① and the output of IC301 (terminal ⑥) is grounded. Thus, when ARM LIFTER switch (S3) is depressed Q306 turns OFF. (current ①). At the same time, current ② turns Q312 ON and current ③ turns Q313 OFF. The output of IC 301 (current ④) is applied to the base of Q317 and this turns Q317 ON.

Tonearm Raising Operation

The flip-flop, Q309 and Q310 is reversed every time current ⑤ flows or not flows. When POWER

switch (S8) turns ON, the current passing through R326 and C316 turns Q308 ON for a moment. This holds Q309 ON and Q310 OFF. Thus, when ARM LIFTER switch (S3) is depressed, and this turns Q307 ON. The flip-flop is reversed, that is to say, Q309 turns OFF and Q310 ON.

Current ⑥ turns Q314, Q316 and Q318 ON and current ⑦ flows. The DC motor starts rotating and the drive gear turns clockwise so that the arm lifter starts raising.

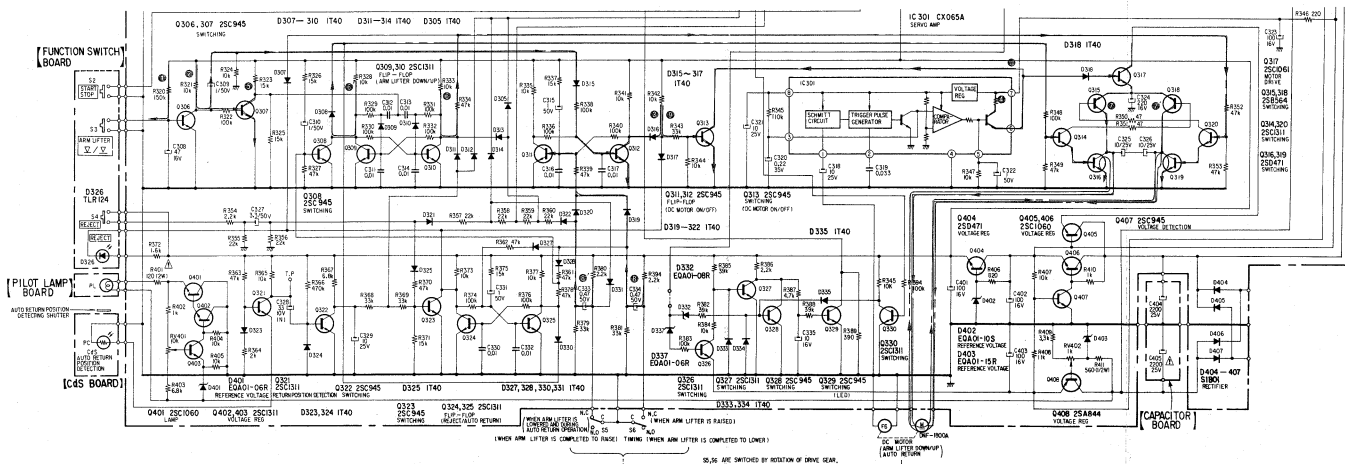
As soon as the drive gear reaches the position where the arm lifter is completely raised, timing switch (S5) switches from N.C. to N.O. The flip-flop is reversed by current ⑧, that is to say, Q311 turns ON and Q312 OFF. Current ⑨ turns

Q313 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF interrupting current ⑦ and the DC motor stops rotating.

Tonearm Lowering Operation

When ARM LIFTER switch (S3) is depressed again, Q317 turns ON reversing the flip-flop, Q309 and Q310. That is to say, Q310 turns OFF and Q309 turns ON. Current ⑩ turns Q320, Q319 and Q315 ON so that current ⑪ flows. The DC motor starts rotating and the drive gear turns counterclockwise so that the arm lifter starts lowering. As soon as the drive gear reaches the position where the arm lifter is completely lowered, timing switch (S6) switches

from N.C. to N.O. The flip-flop is reversed by current ⑫ that is to say, Q311 turns ON and Q312 turns OFF. Current ⑬ turns Q313 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF, interrupting current ⑪ and the DC motor stops rotating.



SECTION 2

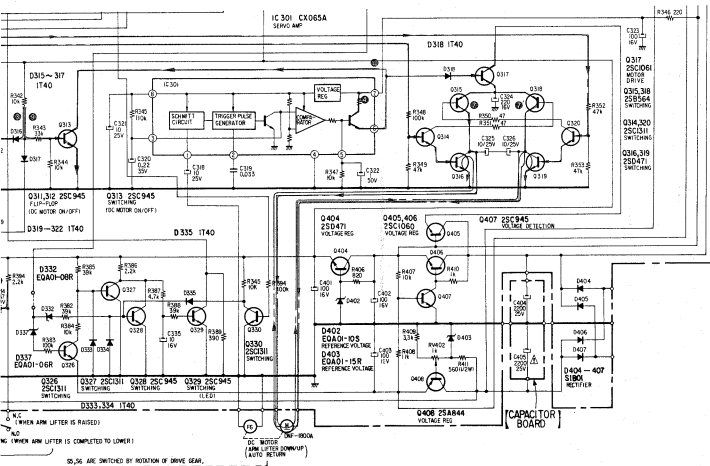
DISASSEMBLY

Q313 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF interrupting current ⑦ and the DC motor stops rotating.

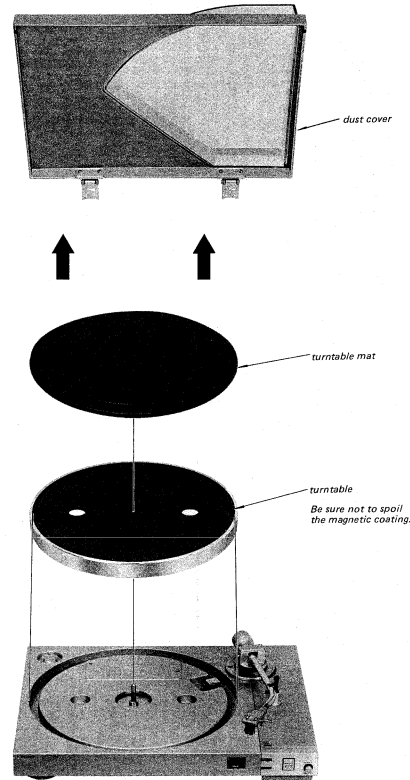
Tonearm Lowering Operation

When ARM LIFTER switch (S3) is depressed again, Q317 turns ON reversing the flip-flop, Q309 and Q310. That is to say, Q310 turns OFF and Q309 turns ON. Current ⑥ turns Q320, Q319 and Q315 ON so that current ⑦ flows. The DC motor starts rotating and the drive gear turns counterclockwise so that the arm lifter starts lowering. As soon as the drive gear reaches the position where the arm lifter is completely lowered, timing switch (S6) switches

from N.C. to N.O. The flip-flop is reversed by current **8** that is to say, Q311 turns ON and Q312 turns OFF. Current **9** turns Q313 ON and the output of IC 301 (terminal **6**) is grounded. As a result, Q317 turns OFF, interrupting current **7** and the DC motor stops rotating.

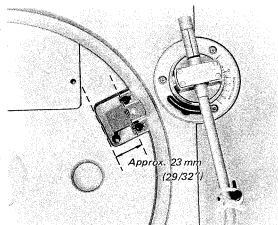


TURNTABLE REMOVAL



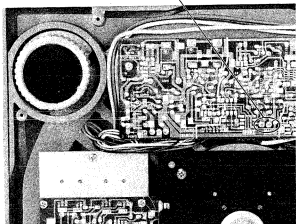
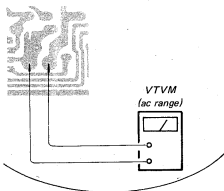
Speed-Detecting Head Output Adjustment

Adjust the position of the speed-detecting head so that the VTVM reading is 25 – 50 mV ac at 33 rpm.



Note: Be sure not to spoil the magnetic coating of the turntable.

The clearance between the magnetic coating rim and the speed-detecting head is more than 0.3 mm.



Speed Adjustment

1. Set the SPEED switch to "45" position.
2. Adjust RV102 for specified waveform as shown on the oscilloscope.

100 – 200 μ s



Note: The waveform should appear to positive side.

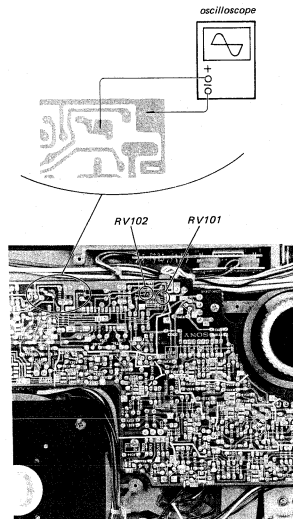
3. Set the SPEED switch to "33" position.
4. Adjust RV101 for specified waveform as shown on the oscilloscope.

450 – 550 μ s



Note: The waveform should appear to positive side.

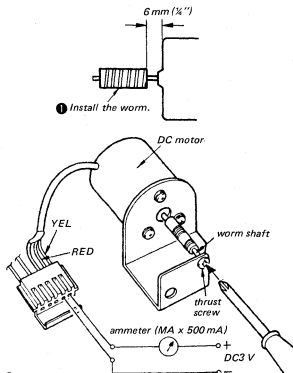
Adjustment Location



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT

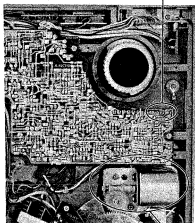
DC Motor Worm Thrust Play Adjustment



2 Adjust the thrust screw.

1. Connect an ammeter as shown.
2. Be sure not to touch the worm shaft and the thrust screw while rotating the motor.
3. Gradually turn the thrust screw clockwise to the position where the motor current suddenly increases.
4. Then, turn the thrust screw counterclockwise about 1/4 turn from the position obtained in step 3.

2 Remove the connector.



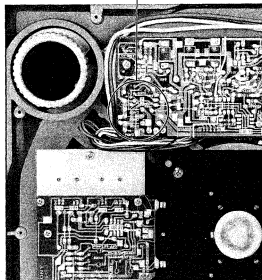
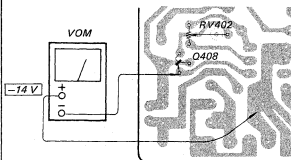
DC motor

3-2. ELECTRICAL ADJUSTMENTS

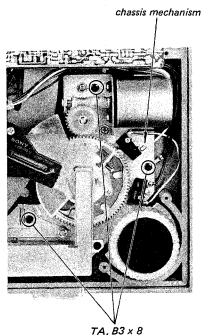
B— Voltage Adjustment

Adjust RV402 for -14 V dc reading on VOM.

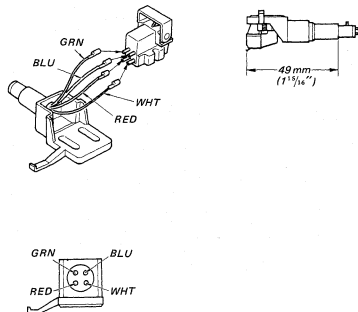
Adjustment Location and Specification
— Servo amp board —



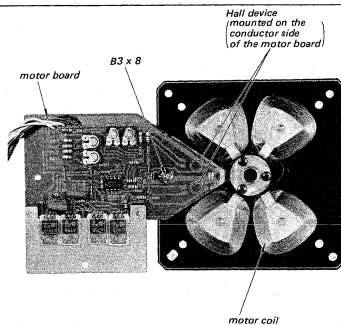
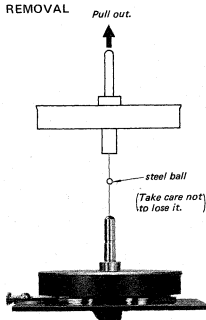
CHASSIS MECHANISM REMOVAL



CARTRIDGE INSTALLATION

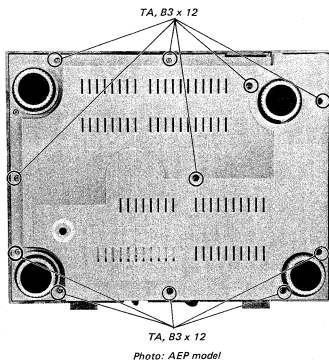


MOTOR REMOVAL

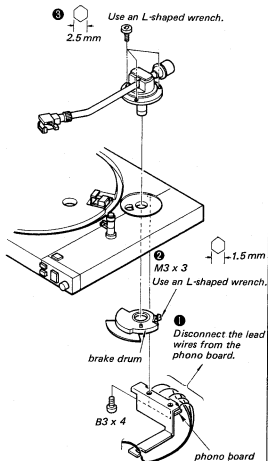


Note: Follow the disassembly procedure in the numerical order given.

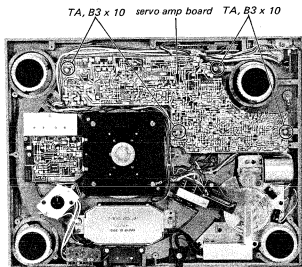
BOTTOM PLATE REMOVAL



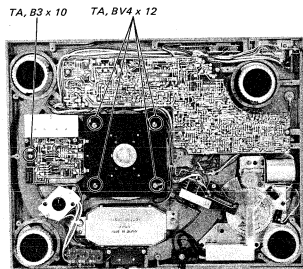
TONEARM REMOVAL



SERVO AMP BOARD REMOVAL



MOTOR SECTION REMOVAL

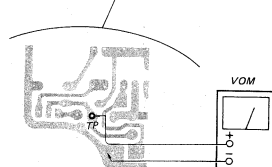
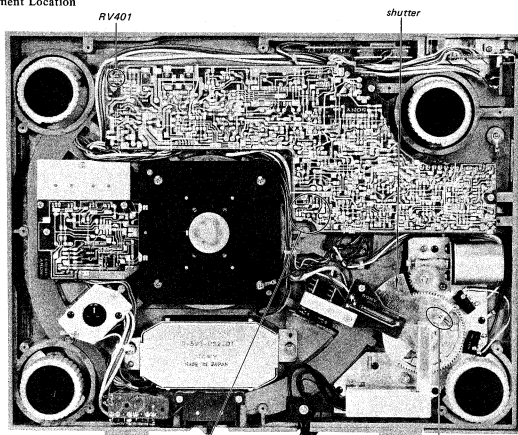


Automatic Return Adjustment

1. Turn the power switch on.
2. Bring the tonearm toward the center spindle.
3. Adjust RV401 for 2.5 V dc reading on the VOM.
4. Play the test record (YFSB-6, BAND 2,33 rpm).
5. Turn the shutter adjustment screw so that tonearm starts to return at count of 15-17.
6. Play the test record (YFSB-6, BAND3-6, 33 rpm)
7. Make sure that the tonearm starts to return when only 1 kHz playback signal is heard. If necessary, adjust RV401.

Tuning direction	Count of return-point
clockwise	up
counterclockwise	down

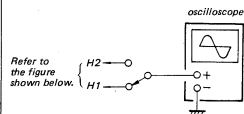
Adjustment Location



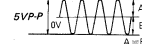
Tuning direction	Return-point
clockwise	sooner
counterclockwise	later

Hall Device Gain Adjustment (33 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.
2. Connect an oscilloscope to H1 and adjust RV201 for the specified waveform on the oscilloscope.
3. Connect an oscilloscope to H2 and adjust RV202 for the specified waveform on the oscilloscope.

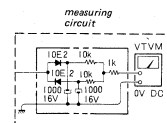


Note: Set the sweep time longer for easy checking the waveform.

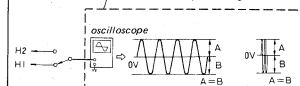


Motor Amp Offset Adjustment (33 rpm)

1. Disconnect the white lead wire and connect the regulated power supply as shown below.
2. Connect VTVM or oscilloscope to H1 and adjust RV204 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.
3. Connect VTVM or oscilloscope to H2 and adjust RV203 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.

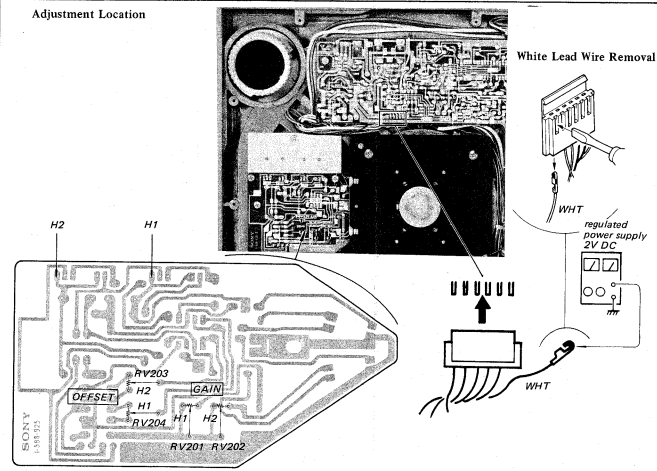


or

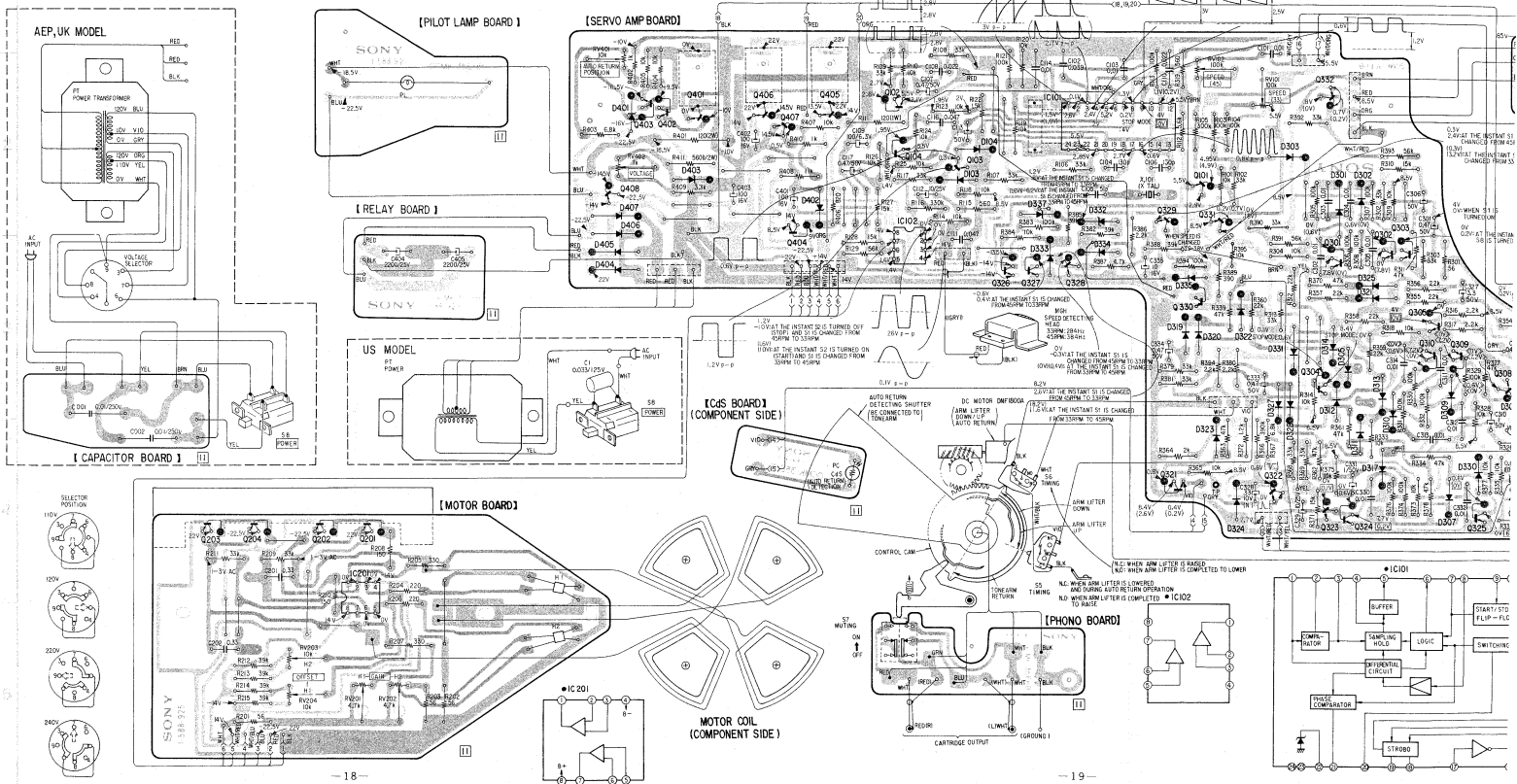


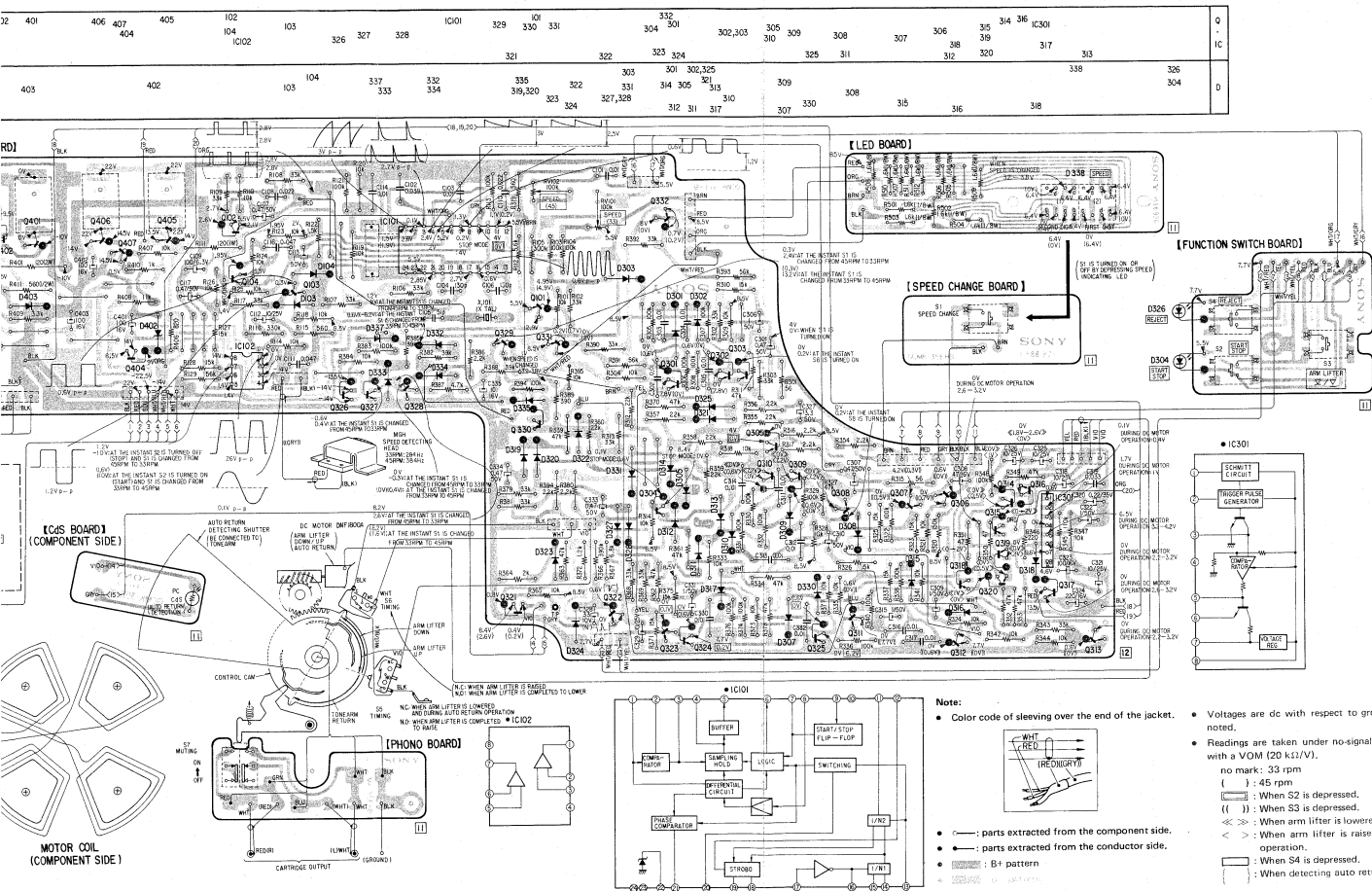
Note: Set the sweep time longer for easy checking the waveform.

Adjustment Location

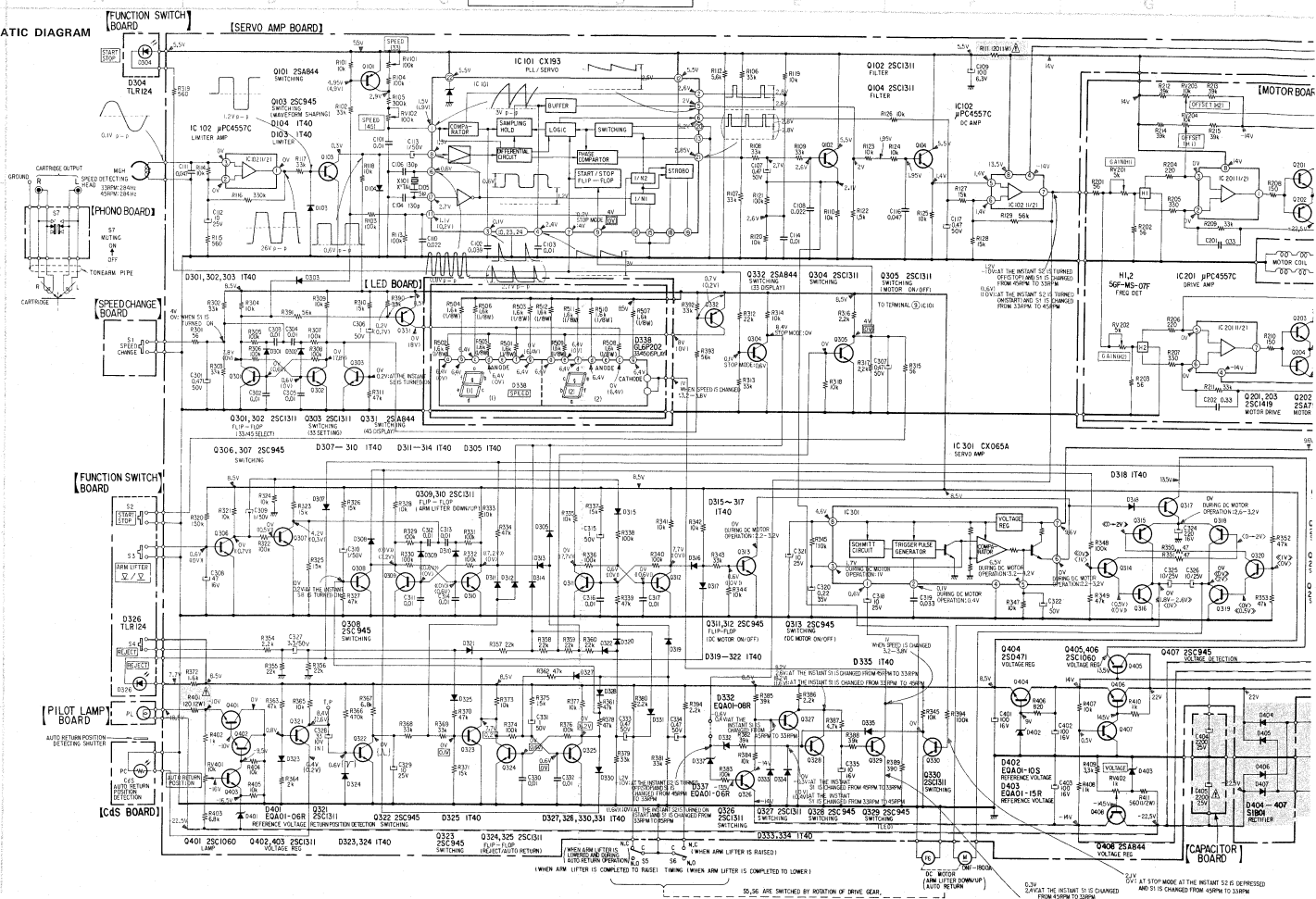


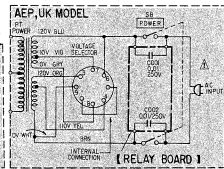
DIAGRAMS

[illegible]



4-2. SCHEMATIC DIAGRAM





Ref. No.	Switch	Position
S1	SPEED	33
S2	START/STOP	
S3	ARM LIFTER	
S4	REJECT	
S5	timing	
S6	timing	OFF
S7	muting	
S8	POWER	

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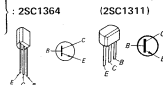
Replacement Semiconductors

For replacement, use semiconductors except in ().

Q101, 331, 332, 408: 2SA1027R (2SA844)



Q102, 104, 301-305,
Q309, 310, 314, 320,
Q321, 324-327, 402,
Q403, 330 : 2SC1364 (2SC1311)



Q103, 306-308, 311-313,
Q322, 323, 328, 329, 407 : 2SC1364 (2SC945)



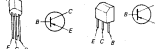
Q201, 203: 2SC1061 (2SC1419)
Q317: 2SC1061



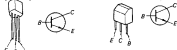
Q202, 204: 2SA671 (2SA755)



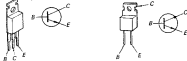
Q315, 318: 2SA684 (2SB564)



Q316, 319, 404: 2SC1474 (2SD471)



Q401, 405, 406: 2SC1061 (2SC1060)



IC102, 201: μ PC4557C



IC301: CX065A



H1, 2: 5GF-MS-07F



D103, 104, 301-303, 305, 307-325 : 1S1555 (IT40)
D327, 328, 330, 331, 333, 334, 335



D304:
D326: TLR124



D332: EOB01-08 (EOA01-08R)
D337: EOB01-06 (EOA01-06R)
D401: EOB01-10 (EOA01-10S)
D405: EOB01-15 (EOA01-15R)



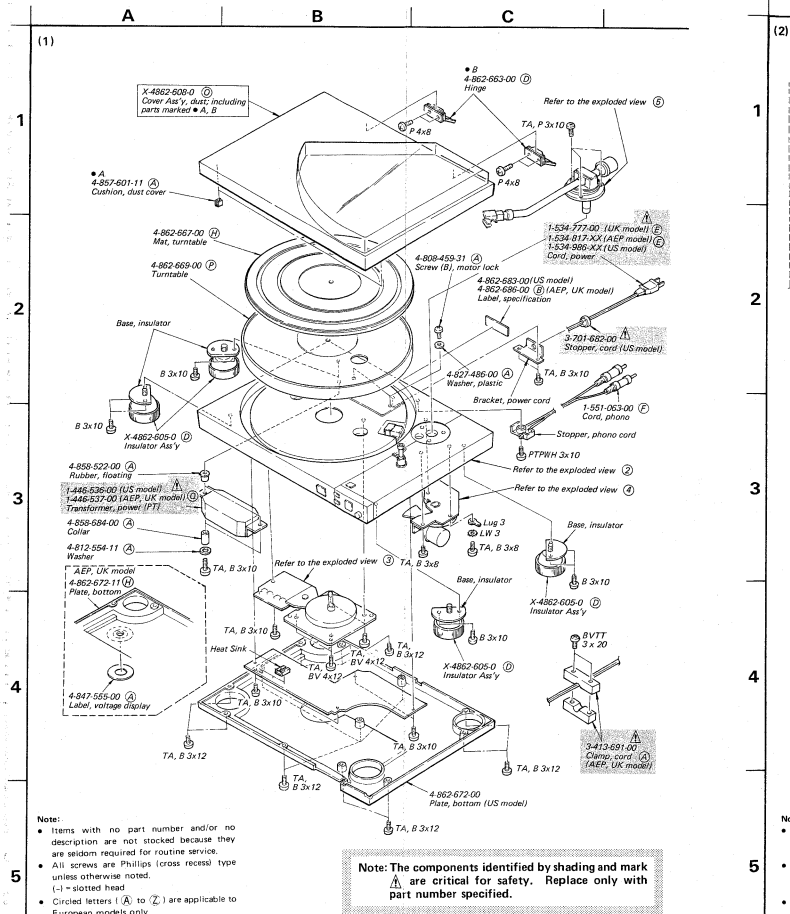
D338: GL6P202



D404-407: 10E2 (SIB01-02)

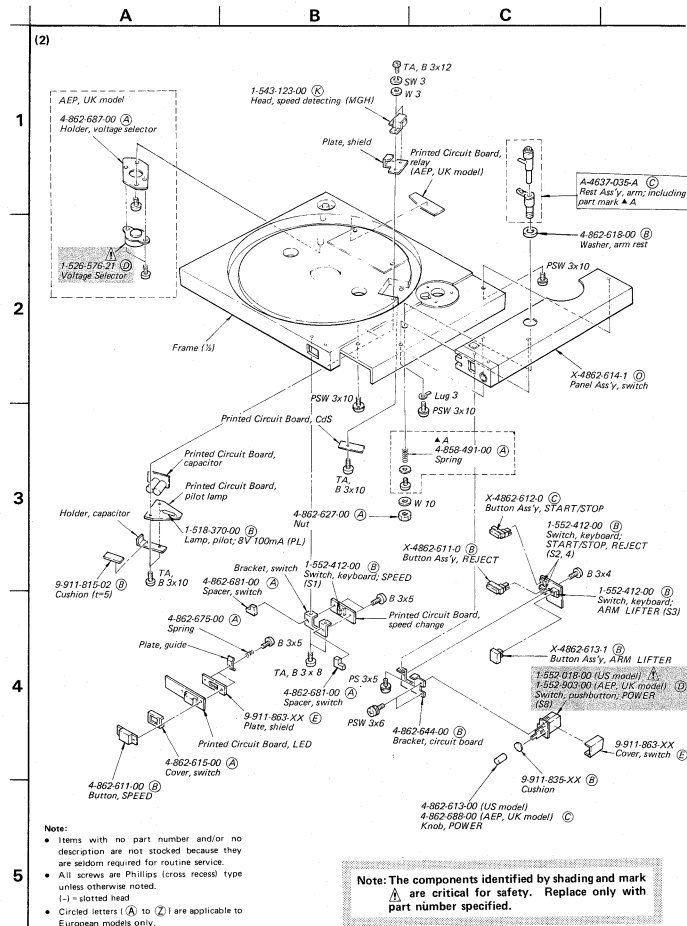
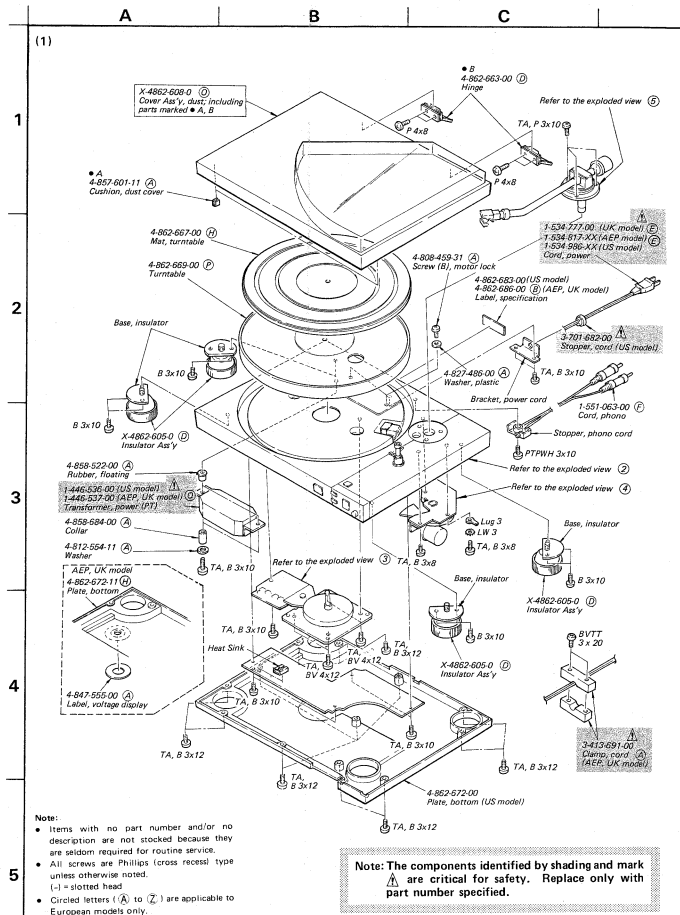


SECTION 5 EXPLODED VIEWS

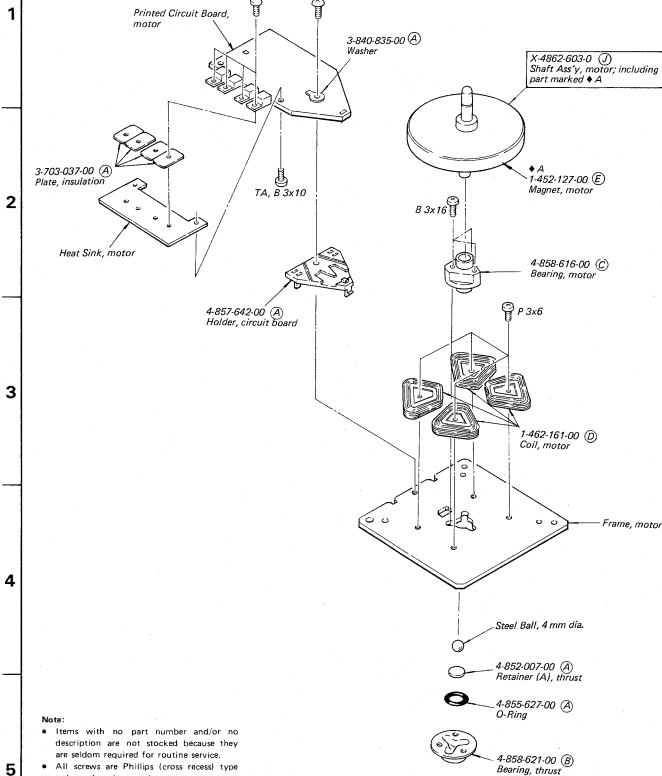


SECTION 5

EXPLODED VIEWS



(3)

A
B
C

Note:

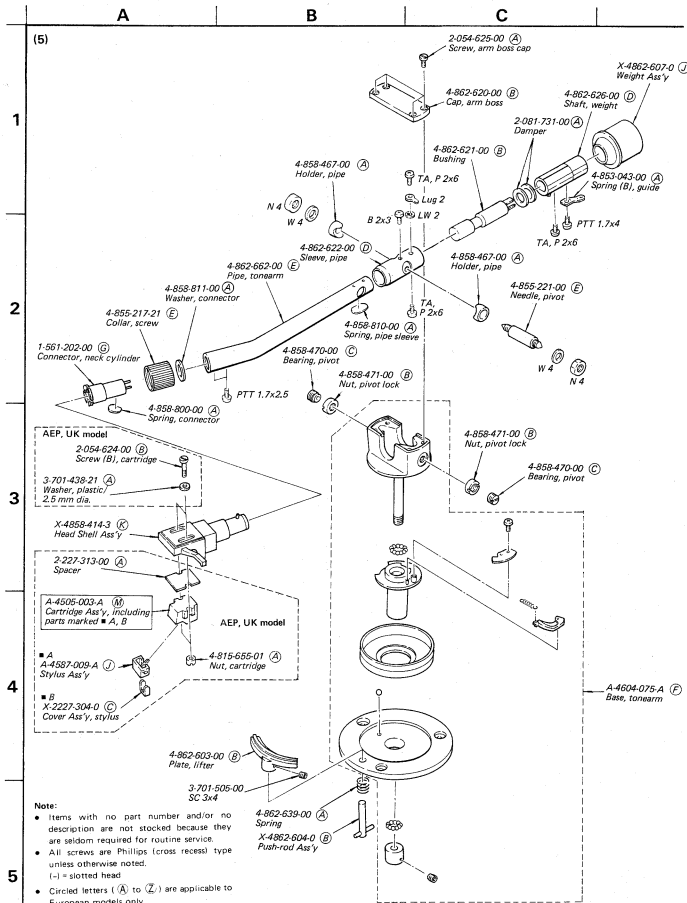
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head
- Circled letters (A) to (Z) are applicable to European models only.

P 3x10

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ELECTRICAL PARTS LIST Note: Circled letters (A) to (Z) are applicable to European models only.

Note: Circled letters (A to Z) are applicable to European models only.



Note

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- Circled letters (A) to (Z) are applicable to European models only.

Ref. No.	Part No.	Description
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SEMICONDUCTORS

Transistor

⇒ Q101	8-729-612-77	(B)	25A1027R
⇒ Q102	8-729-663-47	(B)	25C1364
⇒ Q103	8-729-663-47	(B)	25C1364
⇒ Q104	8-729-663-47	(B)	25C1364
⇒ Q201	8-729-316-12	(D)	25C1061
⇒ Q202	8-729-317-12	(D)	25A671
⇒ Q203	8-729-316-12	(D)	25C1061
⇒ Q204	8-729-317-12	(D)	25A671
⇒ Q301-305	8-729-663-47	(B)	25C1364
⇒ Q306-308	8-729-663-47	(B)	25C1364
⇒ Q309, 310	8-729-663-47	(B)	25C1364
⇒ Q311-313	8-729-663-47	(B)	25C1364
⇒ Q314	8-729-663-47	(B)	25C1364

⇒ Q315 8-729-468-43 (C) 2SA684
⇒ Q316 8-760-335-10 (B) 2SC1474
Q317 8-729-316-12 (D) 2SC1061
⇒ Q318 8-729-468-43 (C) 2SA684
⇒ Q319 8-760-335-10 (B) 2SC1474

⇒ Q320, 321 8-729-663-47 (B) 2SC1364
 ⇒ Q322, 323 8-729-663-47 (B) 2SC1364
 ⇒ Q324-327 8-729-663-47 (B) 2SC1364
 ⇒ Q328-330 8-729-663-47 (B) 2SC1364
 ⇒ Q331, 332 8-729-612-77 (B) 2SA1027R

⇒Q401 8-729-316-12 (D) 2SC1061
⇒Q402, 403 8-729-663-47 (B) 2SC1364
⇒Q404 8-760-335-10 (B) 2SC1474
⇒Q405, 406 8-729-316-12 (D) 2SC1061
⇒Q407 8-729-663-47 (B) 2SC1364
⇒Q408 8-729-612-77 (B) 2SA1027R

ICs

IC101 8-751-930-00 (K) CX193
IC102, 201 8-759-145-57 (D) μ PC4557C
IC301 8-759-600-65 (D) CX065A

Diodes

⇒ D103, 104	}	8-719-815-55	(B)	1S1555
D301-303				
D304	}	8-719-812-41	(B)	TLR124
⇒ D305				
D307-325				
D326				
⇒ D327, 328	}	8-719-815-55	(B)	1S1555
D330, 331				

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Ref. No.	Part No.	Description
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⇒D332 8-719-931-08 (B) EQB01-08
⇒D333-335 8-719-815-55 (B) 1S1555
⇒D337 8-719-931-06 (B) EQB01-06
D338 8-719-962-02 (1) GL6P202

⇒ D401 8-719-931-06 (B) EQB01-06
⇒ D402 8-719-931-10 (B) EQB01-10
⇒ D403 8-719-931-15 (B) EQB01-15
⇒ D404-407 8-719-200-02 (B) 10E2

Hall Elements

H1, 2 8-719-905-07 (D) 5GF-MS-07F

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50WV or less are not indicated except for electrolytics and
tantalum. p: μF , elect: electrolytic

C001,002 A1-130-196-00 (D) 0.01 250 V film
(AEP, UK model)

C1	A1-108-750-00	0.033	125 V	mylar (US model)
C101	1-108-579-00	0.01		mylar
C102	1-108-360-00	0.039		mylar
C103	1-108-579-00	0.01		mylar

C104	1-101-081-00	(A)	130p		
C105	1-102-491-00	(A)	51p		
C106	1-101-081-00	(A)	130p		
C107	1-123-351-00	(B)	0.47	50 V	elect
C108	1-108-587-00	(B)	0.022		mylar
C109	1-123-295-00	(B)	100	6.3 V	elect

C110	1-161-494-00	(A)	0.022		
C111	1-101-006-00	(A)	0.047		
C112	1-123-329-00	(B)	10	25 V	elect
C113	1-123-352-00	(B)	1	50 V	elect
C114	1-161-051-00	(A)	0.1		(semiconductor)

C116	1-108-595-00	(B)	0.047		mylar
C117	1-123-351-00	(B)	0.47	50 V	elect
C201, 202	1-108-855-00	(B)	0.33		mylar

C301	1-123-351-00	(B) 0.47	50 V	elect
C302-305	1-161-051-00	(A) 0.01		(semiconductor)
C306	1-123-352-00	(B) 1	50 V	elect
C307	1-123-351-00	(B) 0.47	50 V	elect
C308	1-123-319-00	(B) 47	16 V	elect

C309, 310	1-123-352-00	(B) 1	50 V	elect
C311-314	1-161-051-00	(A) 0.1		(semiconductor)
C315	1-123-352-00	(B) 1	50 V	elect
C316, 317	1-161-051-00	(A) 0.1		(semiconductor)
C318	1-123-329-00	(B) 10	25 V	elect

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note: Circled letters (A) to (Z) are applicable to European models only.

Ref. No.	Part No.	Description
C319	1-108-591-0 (B) 0.033	mylar
C320	1-131-211-0 (B) 0.22	35 V tantalum
C321	1-123-329-0 (B) 10	25 V elect
C322	1-123-352-0 (B) 1	50 V elect
C323	1-123-320-0 (B) 100	16 V elect
C324	1-123-321-0 (B) 220	16 V elect
C325, 326	1-123-329-0 (B) 10	25 V elect
C327	1-123-354-0 (B) 3.3	50 V elect
C328	1-121-926-0 (B) 33	10 V elect
C329	1-123-329-0 (B) 10	25 V elect
C330	1-161-051-0 (A) 0.1	(semiconductor)
C331	1-123-352-0 (B) 1	50 V elect
C332	1-161-051-0 (A) 0.1	(semiconductor)
C333, 334	1-123-351-0 (B) 0.47	50 V elect
C335	1-123-316-0 (B) 10	16 V elect

C401-403	1-123-320-0 (B) 100	16 V elect
C404, 405	1-123-338-0 (C) 2200	25 V elect

RESISTORS

All resistors are in ohms. Common 1/4W carbon resistors are omitted. Refer to the list on the last page for their part numbers.

R111	1-213-132-0 (A) 120	1 W metal oxide (nonflammable)
R401	1-206-642-0 (B) 120	2 W metal oxide (nonflammable)
R411	1-244-867-0 (A) 560	1/2 W carbon
R501-512	1-210-371-0 (A) 1.6 k	1/4 W carbon
RV101	1-226-238-0 (B) adjustable, 50k-B; speed; 33	
RV102	1-226-239-0 (B) adjustable, 100k-B; speed; 45	
RV201, 202	1-226-235-0 (B) adjustable, 5k-B; gain	
RV203, 204	1-226-236-0 (B) adjustable, 10k-B; offset	
RV401	1-226-236-0 (B) adjustable, 10k-B; return position	
RV402	1-226-233-0 (B) adjustable, 1k-B; voltage	

SWITCHES

S1	1-552-412-0 (B) Keyboard, SPEED
S2	1-552-412-0 (B) Keyboard, START/STOP
S3	1-552-412-0 (B) Keyboard, ARM LIFTER
S4	1-552-412-0 (B) Keyboard, REJECT
S5, 6	1-552-414-0 (B) Micro, timing
S7	1-552-800-0 (B) Slide, muting
S8	1-552-018-0 Pushbutton, POWER (US model)
S8	1-552-903-0 Pushbutton, POWER (AEP, UK model)

<u>Ref. No</u>	<u>Part No.</u>	<u>Description</u>
MISCELLANEOUS		
M	8-834-018-61	(1) DC Motor, DNF-1800A; ARM LIFTER/AUTO RETURN
MGH	1-543-123-00	(C) Head, speed detecting
PC	1-800-652-00	(C) CAS
PL	1-518-370-00	(B) Lamp, pilot; 8 V 100 mA
PT	1-446-536-00	(A) Transformer, power (US model)
PT	1-446-537-00	(C) Transformer, power (AEP, UK model)
X101	1-527-380-00	(D) Crystal
	1-452-127-00	(B) Magnet, motor
	1-462-161-00	(D) Coil, motor
	1-526-576-21	(D) Voltage Selector (AEP, UK model)
	1-534-777-00	(B) Cord, power (UK model)
	1-534-817-XX	(E) Cord, power (AEP model)
	1-534-986-XX	(E) Cord, power (US model)
	1-535-506-00	(A) Terminal
	1-551-063-00	(D) Cord, phone
	1-560-064-00	(B) Pin, connector

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
3-701-616-00	(A) Bag, plastic
3-701-630-00	(A) Bag, plastic
3-701-634-00	(B) Bag, plastic
3-701-730-00	(B) Bag, plastic, IBM card
3-701-806-00	(B) Adaptor, 45 rpm
3-770-732-21	Manual, instruction (US model)
3-770-732-11	Manual, instruction (AEP, UK model)
3-794-233-21	Sheet, instruction (US model)
4-857-657-00	(B) Bag, protection
4-858-587-00	(B) Case, accessory
4-862-633-00	(C) Sub-weight
4-862-689-00	(F) Carton
4-862-677-00	(C) Cushion (right)
4-862-678-00	(C) Cushion (left)
4-862-679-00	(C) Case, accessory
4-862-680-00	(A) Plate, protection

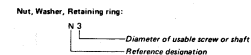
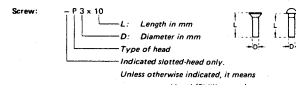
Note: The components identified by shading and mark A are critical for safety. Replace only with part number specified.

1/4 WATT CARBON RESISTORS

Note: Circled letter (A) is applicable to European models only.

Q	Part No.	Q	Part No.	Q	Part No.	Q	Part No.	Q	Part No.				
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-246-546-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-246-547-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-246-548-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-246-549-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-246-550-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-246-551-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-246-552-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-246-553-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-246-554-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-246-555-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-246-556-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-246-557-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-246-558-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-246-559-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-246-560-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-246-561-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-246-562-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer	binding-head (B) screw and flat washer for replacement
PS		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-filister-head screw	
RF		filister-head screw	
BV		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with flat washer	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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